

HumiSeal[®] 1A65 Urethane Conformal Coating

Technical Data Sheet

HumiSeal[®] 1A65 is a single component, polyester urethane conformal coating intended for general printed circuit assemblies. HumiSeal[®] 1A65 demonstrates excellent flexibility and long term electrical properties as well as very good barrier properties against moisture and corrosive gases such as hydrogen sulfide. HumiSeal[®] 1A65 coating is RoHS Directive 2002/95/EC compliant.

Properties of HumiSeal[®] 1A65

Density, per ASTM D1475	0.95 g/cm ³
Solids Content, % by weight per Fed-Std-141, Meth. 4044	30 %
Viscosity, per Fed-Std-141, Meth. 4287	900 centipoise
VOC	665 grams/litre
Drying Time to Handle per Fed-Std-141, Meth. 4061	25 minutes
Recommended Coating Thickness	25 - 75 microns
Recommended Curing Conditions	20 hrs @ 80°C
Time Required to Reach Optimum Properties	7 days
Recommended Thinner	HumiSeal [®] Thinner 24
Recommended Stripper	HumiSeal [®] Stripper 1063
Glass Transition Temperature - DSC	43°C
Shelf Life at Room Temperature, DOM	12 months
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts
Insulation Resistance, per MIL-I-46058C	7.0 x 10 ¹² ohms (7.0 TΩ)
Moisture Insulation Resistance, per MIL-I-46058C	7.1 x 10 ¹⁰ ohms (71 GΩ)

Application of HumiSeal[®] 1A65

Cleanliness of the substrate is of extreme importance for the successful application of a conformal coating. Surfaces must be free of moisture, dirt, wax, grease, and all other contaminants. Otherwise, ionic or organic residues on the substrate could be trapped under the coating and cause problems with adhesion or electrical properties. The highest long term reliability for a coated printed circuit assembly will be when the conformal coating is applied over a clean, dry substrate.

The application of conformal coatings over no clean flux is a common practice. The user should perform adequate testing to confirm compatibility between the conformal coating and their particular assembly materials and process conditions. Please contact HumiSeal for additional information.

Spraying

HumiSeal[®] 1A65 can be sprayed using conventional spraying equipment. Spraying should be done in an environment with adequate ventilation so that the vapour and mist are carried away from the operator. The addition of HumiSeal[®] Thinner 24 (MEK/Toluene) is necessary to ensure a uniform spray pattern resulting in pinhole-free film. The amount of thinner and spray pressure will depend on the specific type of spray equipment used and operator technique.

Brushing

HumiSeal[®] 1A65 may be brushed with a small addition of HumiSeal[®] Thinner 24 (MEK/Toluene). Uniformity of the film depends on component density and operator's technique.

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Storage

HumiSeal® 1A65 should be stored away from excessive heat or cold, in tightly closed containers. HumiSeal® products may be stored at temperatures of 0 to 35°C. Prior to use, allow the product to equilibrate for 24 hours at a room temperature of 18 to 32°C.

Caution

Application of HumiSeal® Conformal Coatings should be carried out in accordance with local and National Health and Safety regulations.

The solvents in HumiSeal® Conformal Coatings are flammable. Material should not be used in presence of open flame or sparks. Use only in well-ventilated areas to avoid inhalation of vapours or spray. Avoid contact with skin and eyes.

Consult MSDS/SDS prior to use.

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